

Internal migration and population development in Iceland

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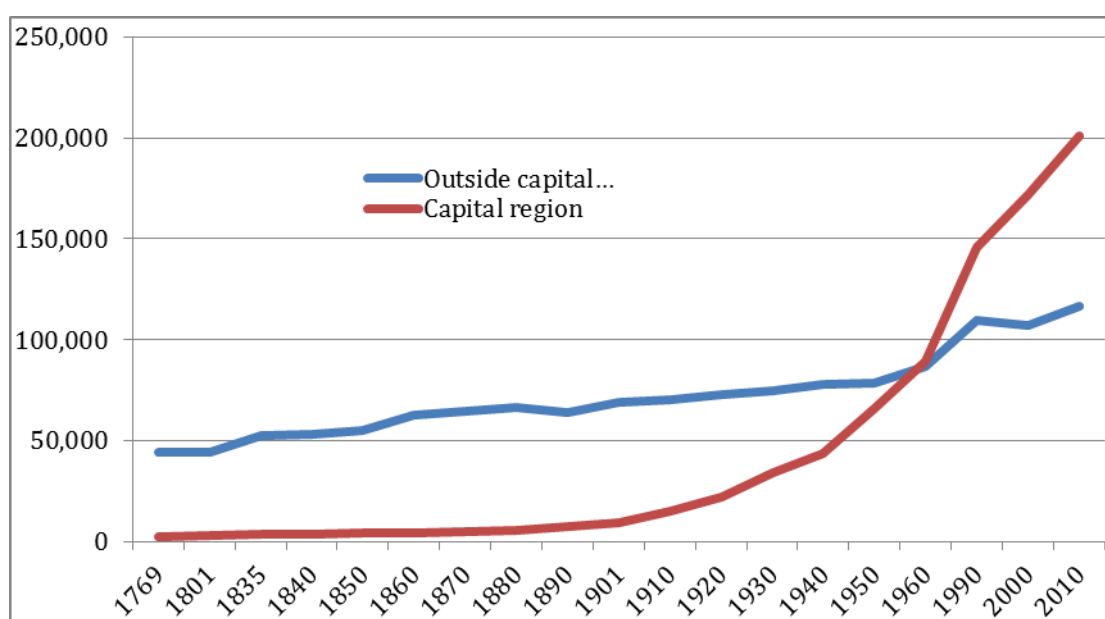
Iceland's settlement pattern has gone through at least four distinct phases. The first phase was when initial settlers came in the ninth and tenth century. They were farmers and the initial settlement pattern reflected the suitability of the Icelandic countryside for farming. Small farms were set up where the land was suitable for the animals to graze that the settlers introduced to the country, in particular sheep, cows and horses. Such farmland was found in the areas near the Icelandic coast, with the highland in the interior of the country being too cold for farming and having little or no vegetation.

The population of the country fluctuated somewhat for the next millenia, dropping in harsh years due to bad weather conditions, plagues or severe volcanic activity. The settlement pattern however remained remarkably stable, with the Malthusian frontier shifting back and forth in the least inhabitable regions but the system of small subsistence farming prevailing, leaving the population at about 50.000 in the long run. There were no significant population centers and practically no infrastructure was developed. This era can be considered the second, and by far longest, phase of Iceland's settlement development.

Rigid social norms aimed at preventing overpopulation tied individuals to farms and hindered marriage of people who were not thought to be able to support a family. Migration from one region to another or even from one farm to another nearby was not an easily available option, neither for farm employees nor leaseholders. Domestic politics were dominated by landowners (freeholders) and farmers had considerable power over those required to live on their farms, both employees and family members. This system certainly did not aid in the development of new industries and may have had a significant effect in delaying the development of domestic fisheries. The old order of the farm-centered society gradually broke down in the 19th century.

The third phase started in the 19th century and lasted until the 1980's or so. See also fig. 1. Early in that phase Iceland finally started developing large-scale fisheries. During the 19th century Icelandic fishermen increasingly switched from open rowing boats to larger vessels with a greater range and capacity. The development of a capital market and the rise of the co-operative movement helped in the switch to more capital-intensive methods than before.

Figure 1: Population development in Iceland 1769-2012.



Source: Statistics Iceland.

This development called for larger villages with a reasonably flexible labor market and proper harbors that could service large vessels. In the first decade of the 20th century the first trawlers were bought by Icelanders and the pace of the movement towards more capital intensive fishing methods increased dramatically, rowing boats were motorized and far larger and more productive vessels taken into use.

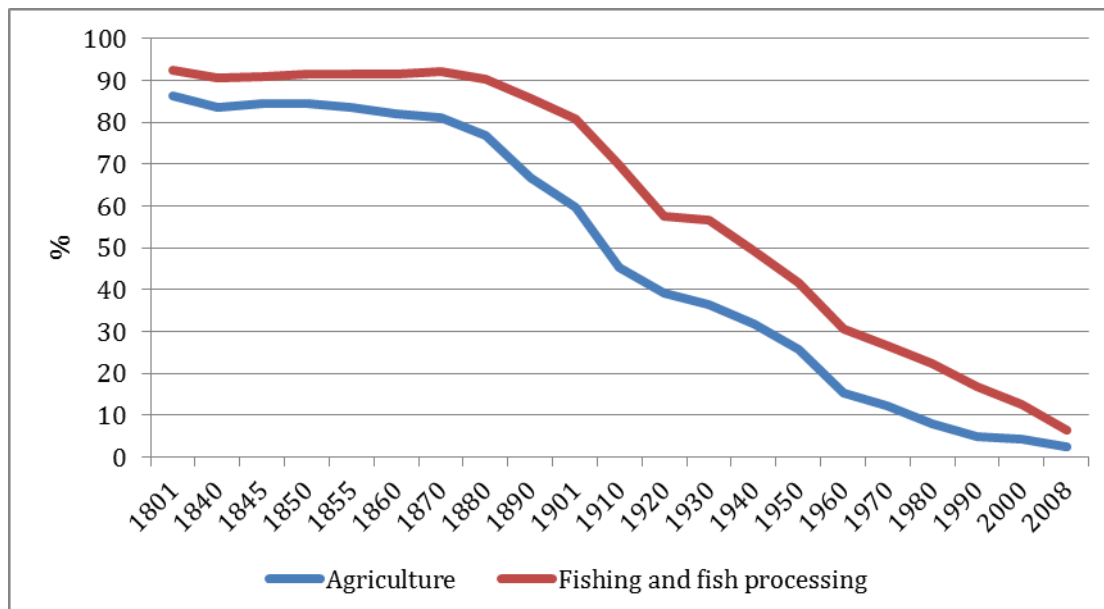
The 19th century also saw the first significant steps towards mechanisation of the economy which continued at an even faster pace in the 20th century. Agriculture was still by far the most important sector in the 19th century but fisheries started growing very rapidly. Other sectors, such as manufacturing and services, also started growing from a very small base.

The growth of the fisheries sector eventually led to the establishment of many small fishing villages, dispersed around the Icelandic coastline. The improved economy meant that Iceland was no longer restricted to having the size of its population determined by the capacity of the country to produce food by traditional farming. The population thus started growing and migrating from the farms to coastal villages. Most of the coastal villages were centered around fisheries and fish processing but they also to some extent became centers for commerce and services for other industries, including agriculture. At the same time the public sector grew. It was predominantly based outside rural areas and disproportionately in the capital.

Until the beginning of the 19th century Icelandic fishermen almost exclusively used open rowing boats for fishing and as late as at the beginning of the 20th century this kind of vessel was still responsible for two thirds of total landings. The very limited range and capacity of rowing boats induced a settlement of fishermen that was spread all along the parts of the coastline where landing was easy and good fishing grounds nearby.

Although most fishing villages were quite small, with perhaps a few hundred inhabitants, this era also saw larger urban centers start to develop. By far the most important one was centered on the capital, Reykjavík. Reykjavík was an important site for fishing early on but more importantly it became the main hub for Iceland's government, manufacturing, commerce and services and grew very rapidly in the first half of the 20th century as these sectors increased in importance. A much smaller regional hub emerged in northern Iceland, in Akureyri.

Figure 2. Proportion of labour force employed in two main primary industries, 1801-2008.



Source: Statistics Iceland.

During the third phase the expansion of the fisheries sector was the most important factor explaining the migration of Iceland's population from rural areas to urban areas on Iceland's coast. Although employment in fisheries peaked much earlier, the fourth phase of Iceland's settlement started when further expansion of the fisheries sector was no longer possible, for biological reasons. The Icelandic fisheries sector had reached the point where increased fisheries were not sustainable. Expanding Iceland's fisheries zone was no longer feasible and many of the fish stocks were showing signs of over-fishing, including the most important one, cod. This became clear in the 1980's and called for the curtailing of catches by introducing various quota systems. Since then the volume harvested by the industry has not shown any long-run growth although it has fluctuated from year to year. The proportion of the labor force employed in fishing

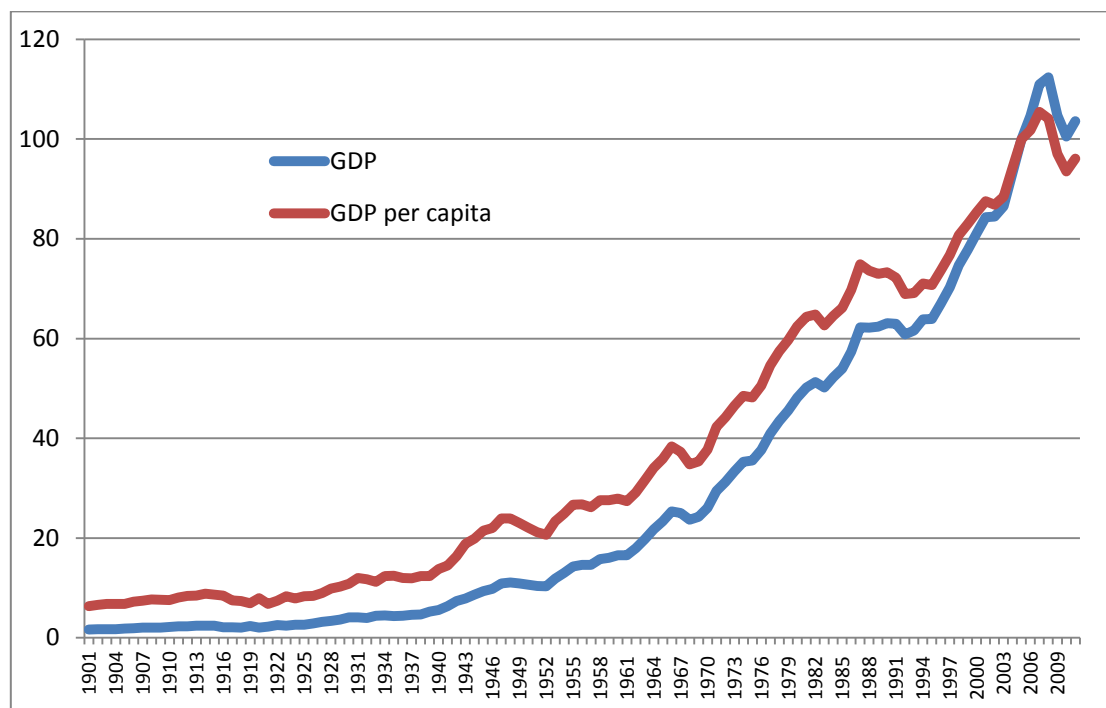
and fish processing also plummeted. It was 14,3% in 1980, only slightly less than in 1940 (17,6%), but had gone down to 4,1% in 2008. See fig. 2 for employment in two primary industries.

This development made it ever harder for fisheries villages to hold on to their population. In many cases it has shrunk considerably in the last quarter century or so. The clearest case is the Western Fjords. This region depended heavily on fisheries, being ill-suited to farming and unable to attract much manufacturing or services. With volumes stagnant and fisheries becoming less manpower intensive with larger and more powerful vessels and better technology the number of jobs in the fisheries sector has kept on falling. At the same time the fish-processing sector increasingly moved offshore, adding to the woes of fishing villages.

The fourth and current phase of Iceland's settlement and migration patterns has thus seen the rise in the total population continue. The increase has however been very much centered on the South-West region of Iceland, with other regions experiencing a stagnant or even declining population with few exceptions. Thus, between 1998 and 2012 the population in South-West Iceland increased by 23,8% while the population of the rest of the country only increased by 0,6%. Growth in the second largest population center, Akureyri, was similar as in the South-West or 18,5%. Areas outside the South-West and Akureyri saw their total population fall. In the Western Fjords the population decreased by 19,7%. Net migration has thus flowed to the South-West from other parts of the country. With young people being most likely to migrate demographics have also changed. The relative lack of young people and women outside the South-West has had an adverse effect on birthrates, which speeds up the depopulation process. Economic development has been the driving force behind migration flows in Iceland since the 19th century. The economic changes have also been very dramatic.

Average annual growth of GDP in the period 1901-1911 was 3,8% and that of GDP per capita 2,5%. This has led to an increase in GDP by a factor of 63 and that of GDP per capita by a factor of 15. It changed Iceland from being a relatively poor country by European standards of the time to being fairly affluent by any standard. Iceland had at the beginning of the 20th century a GDP per capita that was about half of that in Denmark, Iceland's colonial master and a third of that in Britain. By the 1980's Iceland had caught up with its neighbours in GDP per capita although it was and still is lagging a bit in GDP per work-hour. In current USD GDP per capita is now about 36.000, adjusted for differences in price level (PPP). That is a bit higher than the EU average and similar to the other Nordic countries, except Norway. See fig. 3 for economic growth.

Figure 3. Growth of GDP in real terms in Iceland, 1901-2012.



Source: Statistics Iceland.

The high rate of growth of the Icelandic economy since the late 19th century is a symbol of a dynamic and rapidly changing economy. Such a dramatic transformation calls for substantial creative destruction; old techniques and industries are abandoned, replaced by more productive techniques, often in other industries. The population flows have followed, with new jobs not always being created in the same

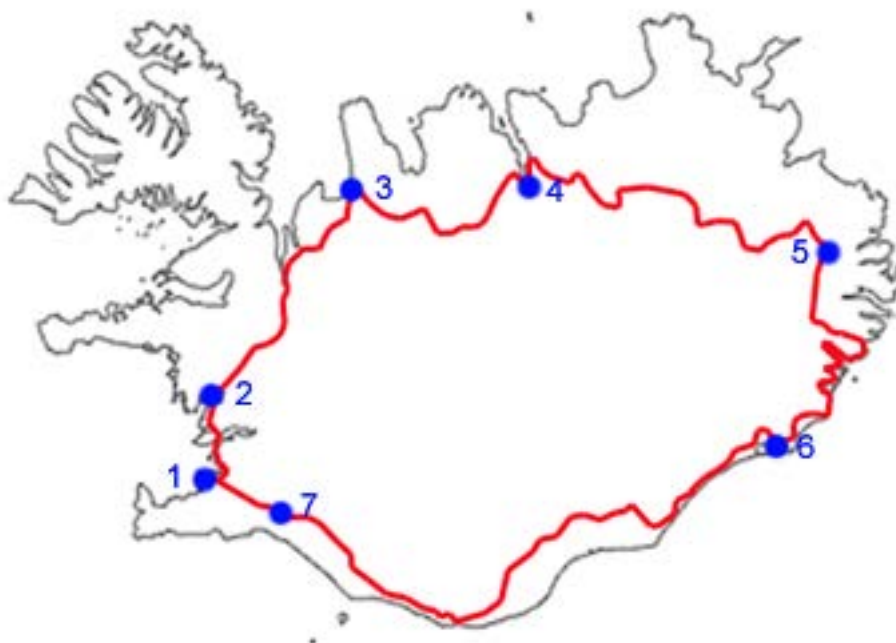
location as the old ones that have disappeared. First, traditional farming was abandoned, leading to depopulation of rural areas and growth of the coastal villages. Then, the coastal villages had a hard time competing with industries growing in larger urban centers, especially the capital region.

The places and industries that have been abandoned did not, however, usually, experience a decline in the absolute standard of living that they offered. Indeed, one could still probably support a family using traditional agricultural methods on one of the many old farms that did just that for centuries. One could not however provide a standard of living that was competitive with what was on offer elsewhere. So, in relative terms, the standard of living that declining industries and places offer has come down.

Urban centers call for very different infrastructure than dispersed farms. To support a large population and improve the standard of living Iceland had to build up centralized networks for water, heating, electricity, sewage and telecommunications. It was a major effort that started in the early 20th century and it took more than half a century to fully provide these essential services for the capital region. Although more remote regions have eventually also been connected to such networks the inhabitants often had to wait several years after access was provided to the capital region. The capital region has especially benefitted from the harnessing of geothermal power for heating houses, making it less costly there than elsewhere in the country on average. In a cold country, that is quite important.

The road network has grown spectacularly for the last century, starting more or less from nothing. A very substantial development was the completion of the so-called ring-road in the mid 1970's. Its completion made it possible for the first time to drive all year round from Iceland's South-West to the South-East without having to drive first to the north of the country. This development has had a significant impact in many ways, both economic and social (Vifill Karlsson, 2012). Villages that the ring-road passes through have a significant advantage over those that are far from the road. In particular the Western fjords are at a disadvantage, being far removed from the ring-road. In addition the road system in the Western fjords, despite substantial investments, still consists of very long and winding roads that snake in and out of the many fjords or cross at mountain passes that often close in winter. In addition, airtravel to and from the region can be hard in winter, with harsh weather and narrow fjords between high mountains often making it unsafe to fly. The region is thus the most isolated in the country of those that are populated at all. This is certainly part of the reason for the net outflow of inhabitants that the region has experienced. See fig. 4 for a map of the ring road.

Figure 4. Iceland's highway 1, the ring-road. The numbers depict main regional centers on the road. 1: Reykjavík. 2: Borgarnes. 3: Sauðárkrúkur. 4: Akureyri. 5: Egilsstaðir. 6: Höfn.



Source: (Vifill Karlsson, 2012).

Migration and regional issues have been on the forefront of the Icelandic political discourse since at least the 19th century. Areas fighting depopulation have generally been able to gather political support for various measures aimed at halting the outflow of people. They have been helped by an electoral system

that has systematically favoured regions outside the South-West, giving them more members of parliament per capita.

Substantial funds have been allocated to assisting industries or companies in such regions and various infrastructure projects have been justified by their regional impact. Subsidies have been paid to reduce cost of transportation, househeating, fuel and other items. Local governments in sparsely populated areas get financial support from a special fund and so on. There have also been some attempts to move government jobs from the capital region by relocating government bureaus or shifting specific tasks to government entities already located outside the capital region. In addition the Icelandic government has provided very substantial support for domestic agriculture, through tariff and non-tariff import barriers and subsidies. This has been justified in the political arena mainly by referring to the need to support settlement in rural areas.

Although some of these measures have undoubtedly had an impact on migration and settlement patterns it is very hard to see that they have in any substantial way affected the greater trends that are driven by fundamental changes to the Icelandic economy. Also, at the same time the capital region has seen its role grow with the expansion of the public sector, as it is the centre for provision of many public services, including health care, education and research, the justice system, government administration and many publicly funded cultural institutions. The public sector has grown phenomenally since the 19th century in Iceland. Government consumption was the equivalent of 1,2% of GDP in 1870 but has grown with little interruption ever since and has in recent years been approximately 25% of GDP. With government services heavily concentrated in the capital region, this has been one of the factors explaining the disproportionate growth of that region.

In addition, the capital area provides opportunities for a far greater variety of leisure activities than smaller villages with the bulk of the country's restaurants, cafés, cinemas, book stores, art galleries and post high school educational institutions, the only opera and the main symphony orchestra, the national library, the two main professional theaters and several smaller ones etc. The accumulation of these cultural institutions in one region has a simple explanation. That is where the bulk of the population is and thus the only market large enough to sustain such institutions. The second largest population center, Akureyri, is large enough to sustain comparable although much smaller institutions in some fields. It houses a university, hospital, theater and concert hall to name a few key institutions. Smaller villages and rural areas can not compete at this level but still often support such institutions as high schools, music schools, amateur theatre, sports teams and of course individual artists.

Conclusion

Changes in the structure of the Icelandic economy have resulted in the migration of a large share of the population to one urban area. About two thirds of the population now live in the capital region while the rest is distributed among many dispersed and much smaller municipalities. As late as at the beginning of the 19th century there was practically no urban population in Iceland.

The Icelandic labor market seems to be efficient in the sense that regional disparities in wages and unemployment are small. Migration has no doubt played a significant role in achieving this as the decline of rural industries has not pushed wages there noticeably below those in the rapidly growing capital region.

Governments have tried various measures to influence migration and in particular to slow the flow to the capital region and improve the standard of living in other regions. No attempt is made here to quantify the effects of previous government actions but it is clear that the instruments used have not reversed the larger trend. The collapse of agriculture as a source of employment and the much more gradual relative decline of fishing and fish processing has eroded the comparative advantage of rural regions over the capital region in the competition for labor.

References

Gylfi Magnússon. (1997). *Internal and External Migration in Iceland 1960 - 94: A Structural Model, Government Policies and Welfare Implications*, Ph.D. thesis, Yale University. Also available as University of Iceland Institute of Economic Studies Working Paper Series no. W98:04.

Vífill Karlsson. (2012). *Transportation improvement and interregional migration*. Ph.D. thesis, University of Iceland.

ⁱ For a much more detailed discussion of these issues and references see (Gylfi Magnússon, 1997).